JUNE 1954

# FIREMEN

FIFTY-NINTH YEAR · NATIONAL FIRE PROTECTION ASSOCIATION

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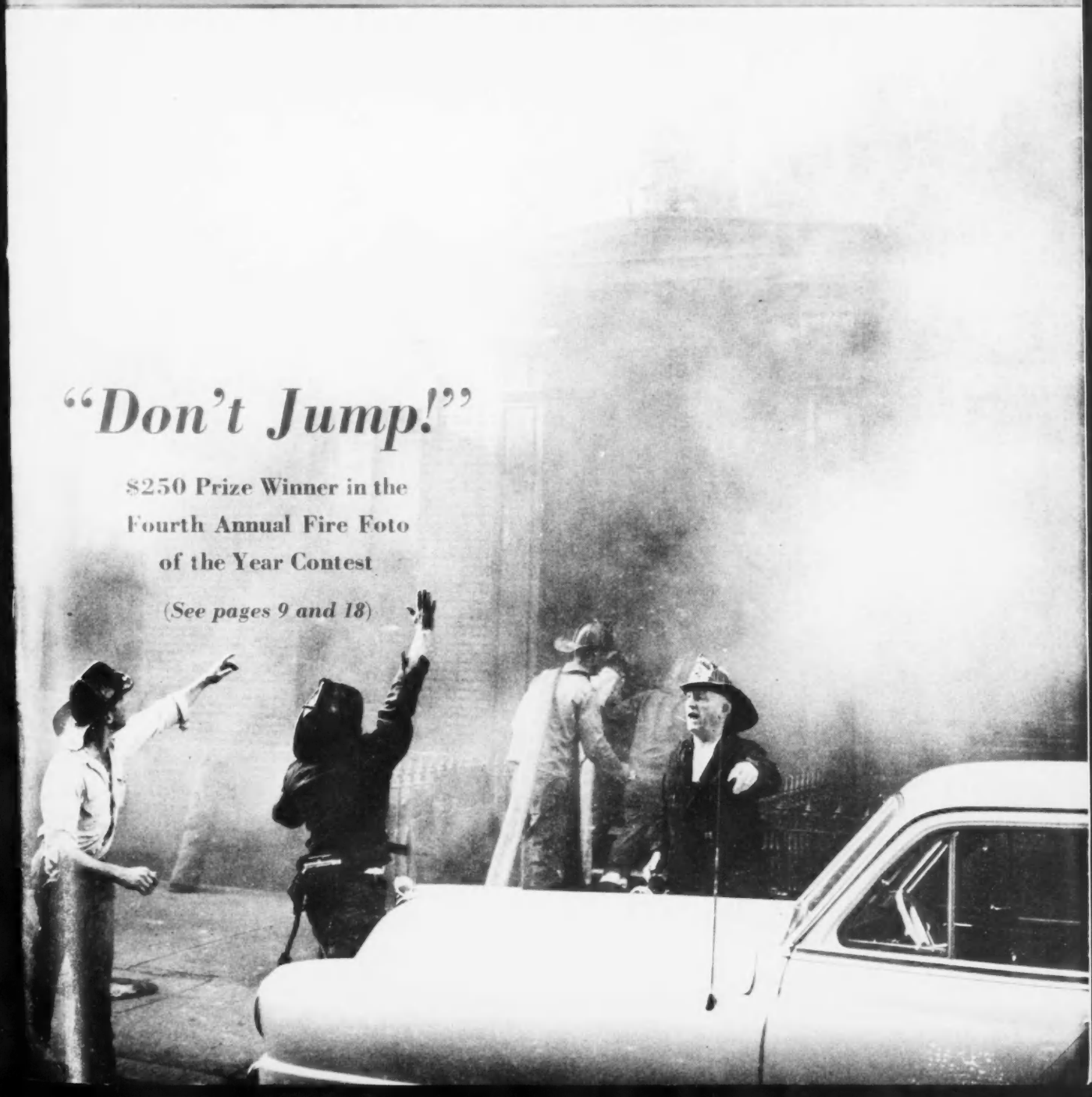
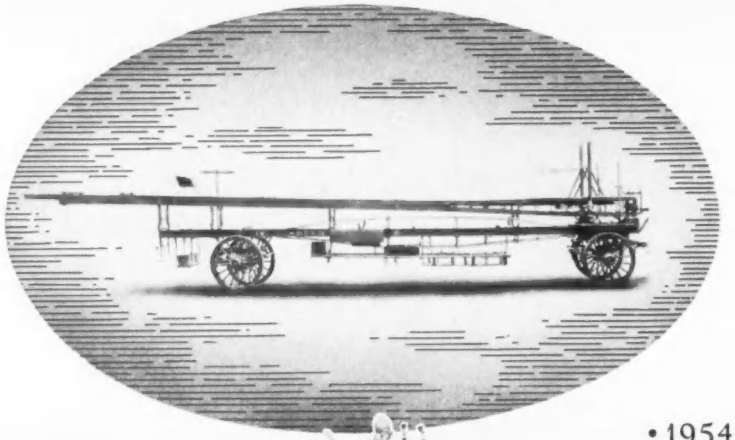


## *"Don't Jump!"*

**$250 Prize Winner in the Fourth Annual Fire Foto of the Year Contest**

*(See pages 9 and 18)*

•1878•



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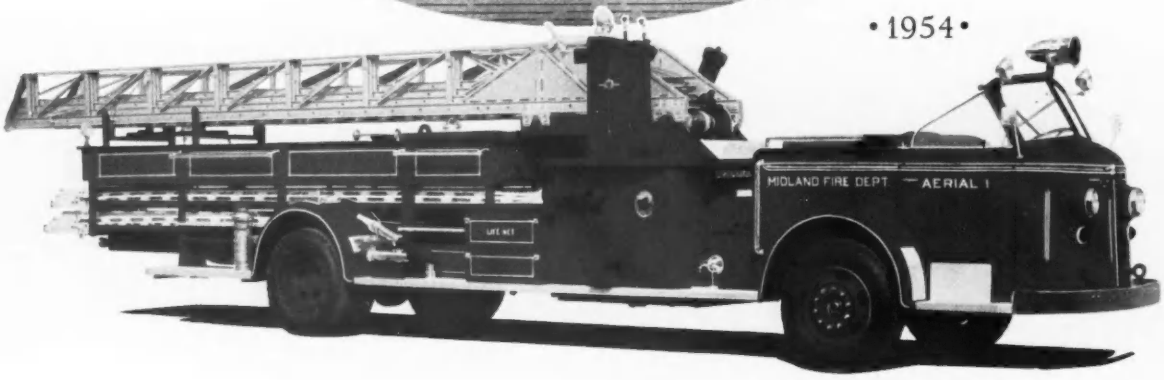


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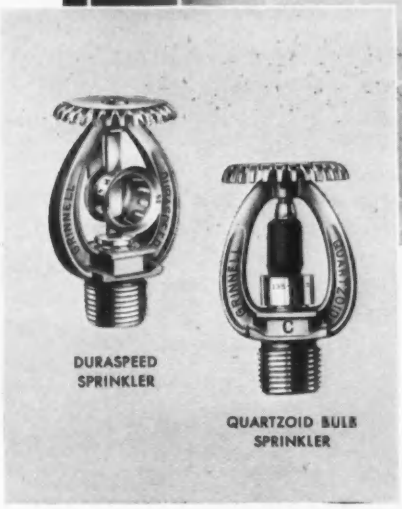


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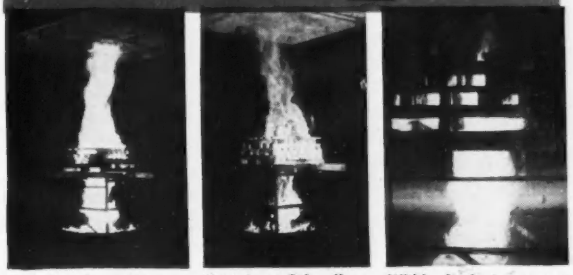

**Test fire is under way. Under the wood crib is a torch fed by a constant flow of gasoline which prevents extinguishment of the fire. The vapors distilled off from both wood crib and gasoline torch feed the flames which lick ceiling panel.**

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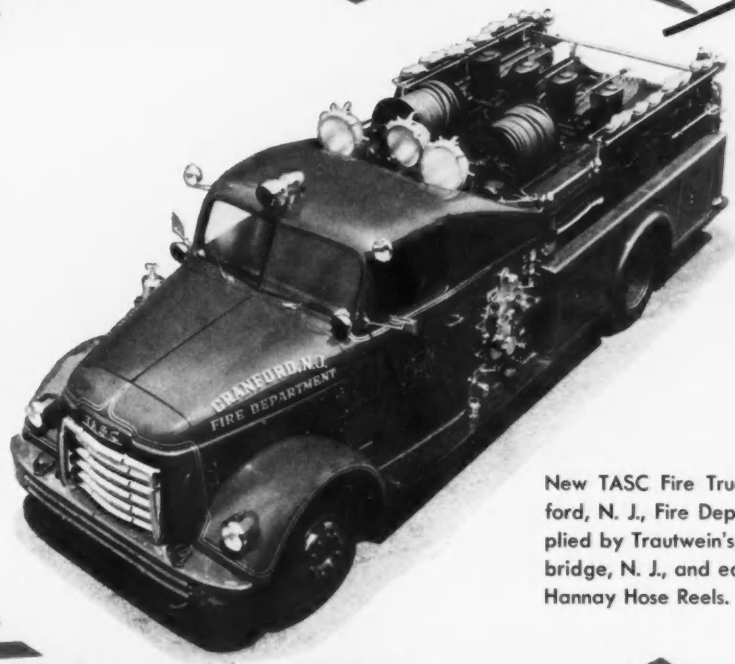


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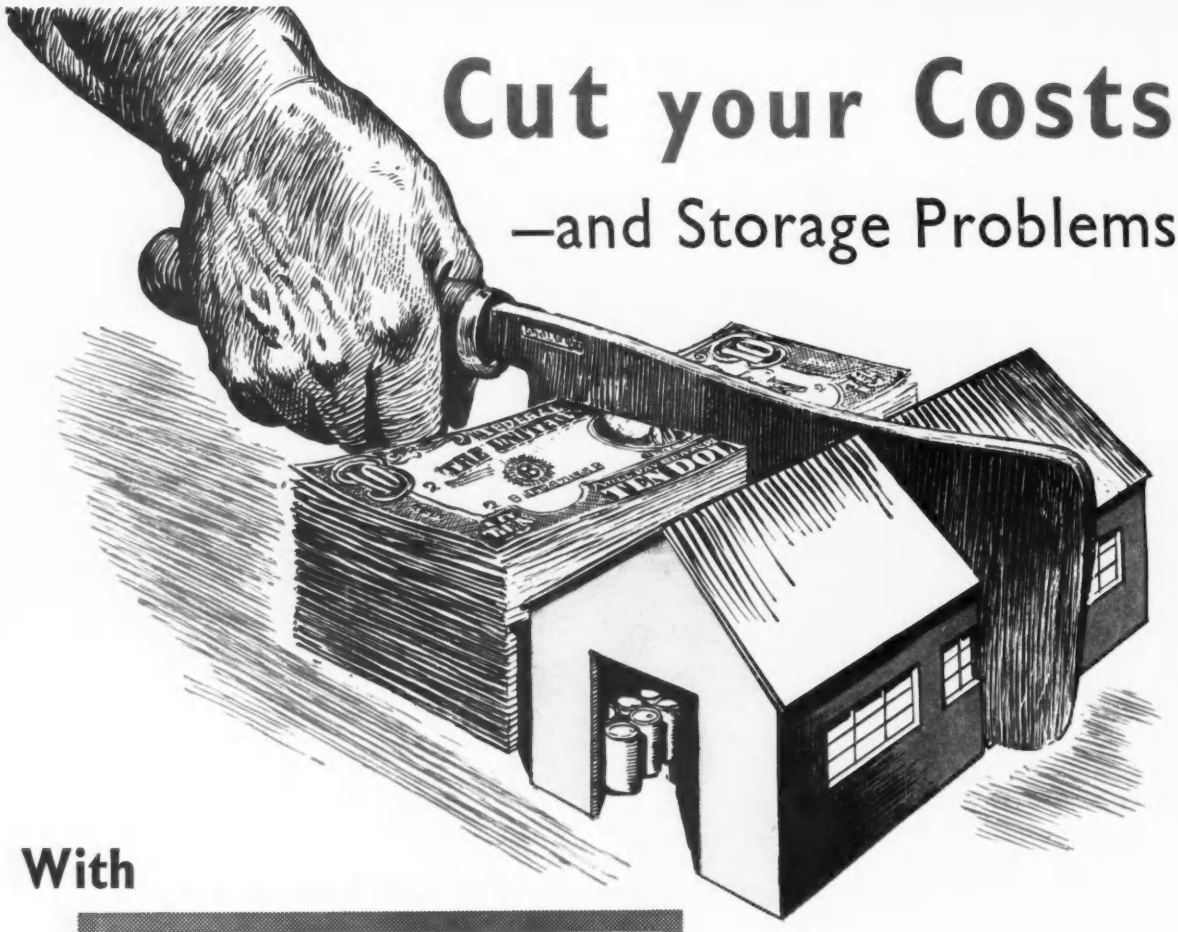

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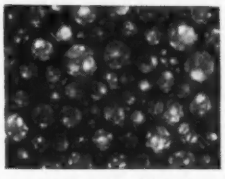
*Magnification X 30*



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# Firemen

Volume 21 Number 6

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PAUL R. LYONS, ASSOCIATE EDITOR
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**Stand Off and Take a Look**

"For every battle of the warrior is with confused noise, and garments rolled in blood; but this shall be with burning fuel of fire," so wrote the great prophet Isaiah. This confusion of the battle is one of the enemies of chiefs commanding on the fire ground. This is especially true in fire fighting because almost all chiefs retain intense pride in their "smoke-eating" ability and press into the thick of the fray like warrior kings of the middle ages. The costly experience of the battlefield has finally taught the military that the front line turmoil is not a practical command post for generals having strategic or even tactical responsibilities. Just so, a smoky basement is not the best command post location for a chief fire officer who wishes to properly deploy his forces and make clear-headed intelligent decisions. He may have a sense of physically participating in a fight and of proving to himself and his subordinates "that the old man can take it" but the surrounding streets may be filled with costly apparatus and equipment that is not being properly used because the commanding officer has merely the view of a punch-drunk fighter rather than a fight manager. Chief Lloyd Layman in the book "Fire Fighting Tactics," published by NFPA, says: "When directing major operations, a commanding officer should establish a command post at an advantageous location and supervise operation through staff officers and aides who are trained and qualified to perform such duties." He has further commented, "The effectiveness of the attack can be estimated from the volume of condensing steam being exhausted from the building." This quantity of condensing steam can be most effectively estimated not by persons who are enveloped in steam and smoke, but by a commanding officer situated where he can view the overall operation.

**Fire Tests**

From time to time we hear remarks to the effect that there is nothing further to be learned from test fires. Even if this were true, such fires give the fire departments a splendid opportunity to develop teamwork and experience in multiple company operations without waiting for valuable property to burn. On Page 10 of this issue appears a detailed story of a large scale fire test conducted by the Northern Firemen's League in Rhode Island in cooperation with the State Sanitorium. Just one of the significant factors that came out of this particular test was the possibility for better control of fire through use of fog nozzle applicators designed specifically for controlling building fires. With 6 rooms involved in fire, a single applicator designed at the suggestion of the NFPA Fire Service Department, provided excellent control.

As a result of this test it is envisioned that such an applicator, used from the outside of a building in conjunction with lines advancing and up inside stairways, can greatly reduce the "punishment" experienced with usual fire fighting techniques. It is envisioned that departments now carrying pre-connected 1½-in. lines with fog nozzles may also carry a ready line having a 10- to 15-ft. applicator attached. This could be mounted, for example, with the short ladders provided on pumpers.

In the test, the applicator also served effectively as a small water tower, readily handled by two men, and capable of knocking down any exterior fire without the danger of breaking windows and driving fire into other areas as may be done where a solid stream is used.

In many situations use of an applicator may make it unnecessary to take a line up a ladder to reach a fire that is showing in second or third floor windows.

**Cover Picture**

Roland P. Oxton, *Boston* (*Massachusetts*) *American* photographer, won first prize of $250 in the Fourth Annual Fire Foto of the Year Contest. (See page 18.) The Contest is sponsored by the NFPA and the National Press Photographers Association. Oxton's winning picture was taken during a Boston fire in which three lives were lost. He caught one moment when fire fighters were moving into action to rescue other persons trapped in the building. (See FIREMEN for September, 1953.)

*Woonsocket Call photo*

**The 125-year-old Angell homestead on property of Rhode Island State Sanitorium at Wallum Lake and scene of elaborate fire test on May 2, 1954.**

*NFPA photo*

**Editor Kimball of FIREMEN Magazine (white hat) assisted by Chepachet, R. I., firemen, directs 10-ft. applicator with 30° fog cone into flame showing at window of hallway. Steam generated at this point extinguished flame in other parts of the structure.**

# New Techniques at Rhode Island Fire Test

ANOTHER forward step in the fire fighter's search for basic knowledge of actual fire behavior, fire gases, and fire extinguishing techniques was made possible when the Rhode Island State Sanitorium at Wallum Lake asked the Northern Rhode Island Firemen's League to burn the 125-year-old Angell Homestead situated on ground being added to the hospital site.

The Northern Firemen's League headed by President Charles W. Wolstenholme, and consisting of Pascoag, Harrisville, Oakland-Mapleville, Nasonville, Glendale, North Smithfield and Chepachet volunteer companies, conferred with the engineering committee of the adjoining Woonasquatucket Firemen's League and the NFPA Fire Services Department in preparing plans for the fire test.

Richmond Kent of Chepachet was placed in charge of the technical research committee and conferred with members of the faculty of Brown University, Rhode Island State University, and the Mass. Institute of Technology. As a result new techniques were developed for taking samples of smoke and gas at various stages of the fire for analyses by Rhode Island State University.

In addition new methods of recording fixed temperature were developed to show the build-up of heat and fire through the main 2½-story part of the structure. The building had been boarded to confine the heat and fire during the test. Details of the equipment and techniques used will be reported in a subsequent issue of FIREMEN.

Actual burning was conducted on Sunday morning, May 2, when the fire was started by Dr. William B. O'Brien of the Sanitorium, and Chief Auren Jencks of Wallum Lake. Chief Jencks, who is chief engineer at the Sanitorium, had a crew of men working with the technical committee in preparing the structure and placing the recording equipment.

Nine fire companies responded from their quarters to a call given at 10:00 A.M. and were placed according to prepared plan. Three pumpers took suction from Wallum Lake some distance from the fire; 3 took suction from a bridge over the small Clear River; 3 portable pumps also took suction from Clear River located at the rear of the fire area. Two lines from yard hydrants were laid out, and 2 mobile units were on patrol along roads on either side of the fire.

Both fog and solid stream lines were ready to protect exposures.

**Dr. William B. O'Brien, of the R. I. State Sanitorium, applies torch while Warren Kimball, of NFPA (*left*) and Chief Auren E. Jencks, of Wallum Lake (*right*) look on.**

*Woonsocket Call photo*

**Pattern of 30° fog from extension applicator furnished by Fog Nozzle Division of Akron Brass Co. of Wooster, Ohio. Applicator which may be extended to 30 ft. discharges 85 gpm at 100 lbs.**

*Boston Fire Department photo*

*Woonsocket Call photos*

**A sweep with the applicator for a few seconds knocked down fire in garage and outbuildings.**

**(*Right*) Steam generated as 10-ft. applicator is directed through second floor window.**

A 2½-in. Elkhart Fog Nozzle was used to protect a 2200 volt power line in front of the burning structure.

NO ATTEMPT was made to control burning in the main 2½-story section. Fire was started in a large pile of wood on the first floor of a 1½-story ell which contained 6 rooms. It was allowed to gain headway with about 15-minute pre-burn, so that flames and heat were showing on both sides of the structure. All windows had been boarded up but openings were made in the windows of the ell of sufficient size to permit the insertion of a 1½-in. fog applicator.

This piece of equipment was especially made for Class A building fires by Fog Nozzle International, Division of Akron Brass Co. of Wooster, Ohio, at the suggestion of Warren Y. Kimball, NFPA Fire Services Department. The applicator (illustrated on page 30) has a 30 degree fog pattern, discharging approximately 85 gpm at 100 lbs. with a greater range than provided with conventional low velocity applicators used for flammable liquid fires.

It consists of 5-ft. and 10-ft. sections which may be inserted in an all-purpose fog nozzle and joined to provide a maximum reach of 30 feet.

In this particular fire two 5-ft. sections were joined, providing 10 feet of reach. This proved ideal for use through windows on both first and second floors.

Because the committee did not wish to interfere with the progress of the gas and temperature readings in the larger section of the building, it was not considered desirable to completely extinguish the main fire. The single 1½-in. applicator used intermittently through windows on both floors on three sides of the ell provided effective control of the fire which had been permitted to involve 6 rooms.

Applications of 10 to 15 seconds each through various windows provided ample water to black out the fire and generate intense clouds of steam. The fire on the opposite side of the building was subdued as well as that in the room where the applicator was being applied. At times steam was rising approximately 100 ft. in the air over the fire area. The applicator permitted control of the fire without any discomfort or punishment on the part of the hosemen manning the nozzle.

During the main fire test several groups of out buildings, including a garage and some sheds, were also burned and the applicator was used

(*Please turn to page 30*)

**(*Below*) Members of Engine 24, at Boston Fire Department training area, demonstrate applicator with 5 ft. nozzle section connected to 10 ft. of aluminum tubing inserted in all-purpose 1½-in. fog nozzle. When water is started the back thrust makes the pipe easy to elevate and control.**

*Boston Fire Department photo*

**(*Right*) A 2½-in. Elkhart "Mystery" nozzle was used to protect 2200 volt electric line passing the building.**

*Woonsocket Call photo*

# Carbon Monoxide in Fire Fighting

By William D. Claudy, M.D.
Board of Police and Fire Surgeons, Washington, D. C.

*Dr. Claudy has been a frequent contributor to* FIREMEN *during the past several years. As a Surgeon for the Washington, D. C. Fire Department he has had valuable fireground experience which lends authority to his articles on rescue operations. In this contribution he analyzes carbon monoxide and cites the precautions fire fighters should follow for protection against this deadly gas. Dr. Claudy is currently serving in the U. S. Air Force in Germany.*

**PART I**

OF ALL the gases encountered in firefighting the most important is carbon monoxide. Generally it is described as an odorless and tasteless gas although actually it has a slight garlic-like odor. It falls in the class of chemical asphyxiants, which also includes the cyanides. It is formed when combustion of materials containing carbon occurs.

Asphyxiants (gases which suffocate) generally can be divided into two separate classes — the simple asphyxiants such as nitrogen, carbon dioxide and other non-toxic gases; and the chemical asphyxiants. The latter can in turn be divided as to their site of action. Carbon monoxide causes asphyxiation by combining with the hemoglobin of the blood, thus preventing it from transporting oxygen from the lungs to the tissues; whereas cyanide derivatives act on body tissues, thus preventing the utilization of the oxygen brought to them. Relatively small quantities of carbon monoxide, even when present in an atmosphere which is adequate in oxygen, may produce effects which are dangerous to life in a short period of time.

During the burning of ordinary everyday household materials, various amounts of carbon monoxide are formed. These amounts depend on several variables, the amount and type of material involved in combustion, the amount of oxygen available, and the temperature. Some idea of the amounts of carbon monoxide eliminated by the combustion of various substances may be gained by studying the table below.

The figures shown represent the total percentages of these gases existing in the actual products of combustion, and not the percentage existing in a given area in which burning is taking place. Thus the smouldering burning of small piles of newspapers in a large open hall and in a small enclosed basement area would give entirely different concentrations of carbon monoxide and carbon dioxide in the respective atmospheres.

Nevertheless, the percentage of carbon monoxide to be expected during the progress of any extensive structural fire is considerable and *has been estimated as high as 6 percent* (2). I have secured measurements ranging from 2 to 4 percent in the atmosphere of building fires being fought by firemen (3).

MOST of the literature on the hazards of carbon monoxide poisoning deals with dangerous accumulations of far less than 1 percent. Cannister type masks commonly utilized by many fire departments are designed for atmospheres in which the carbon monoxide content does not exceed 2 percent. It would seem that the practical fireman and the engineers designing some of his protective equipment have yet to plan towards a common goal in developing masks to withstand these greater concentrations of carbon monoxide.

**Table I**

**Percentage of CO (carbon monoxide) + $CO_2$ (carbon dioxide) produced by combustion**

| Material | Excess Oxyen | Limited Oxygen |
|---|---|---|
| Wood | 1.9% CO | 2.7% |
| | 7.6% $CO_2$ | 5.7% |
| Newspapers | 6.4% CO | 41.0% (plus low temperatures |
| | 6.6% $CO_2$ | 43.0% as when smouldering) |
| Rubber | 10.1% CO | — |
| | 20.1% $CO_2$ | — |
| Wool and Silk | 6.8% CO | 17.7% CO |
| | 13.4% $CO_2$ | 33.1% $CO_2$ |

This gas has a density of 0.967 as compared to air and is therefore slightly lighter than air. When heated, it is considerably lighter. Fire fighters are familiar with the fact that the hot gases of combustion automatically seek the highest level. Even when burning is said to be "cool," the temperature usually exceeds 500 degrees Fahrenheit and when carbon monoxide is heated, even at much lower temperatures, it will automatically rise to the top of the chamber where the burning is taking place.

I have repeatedly demonstrated, by actual fireground measurements, that concentration in burning structures where firemen are working may reach dangerous strengths in the areas from 6 to 12 inches below the ceiling, in stairwells and in atties and cocklofts, where no actual fire exists.

Yet the atmosphere in the remainder of the building may be entirely safe for unmasked men for considerable periods of time. (The entire science of ventilation is based upon this principle).

This fact however, is becoming increasingly more important, for many modern, fire resistive structures, which may be filled with combustible material, are exceedingly difficult to ventilate, forcing firemen to seek other methods of protection.

THE chemical principles of asphyxiation with CO have already been pointed out. Let us consider now the clinical picture of acute carbon monoxide asphyxiation. According to Hamilton, the percentage of carbon monoxide in air will give definite clinical effects. The effects of carbon monoxide blood absorption (carboxyhemoglobin) can also be listed. (See tables on opposite page.)

The exact level of carbon monoxide absorption in the blood at which consciousness is lost is still not a

matter of definite accord, but most agree that it occurs at between 40 and 50 percent.

Likewise the times given in table I for development of symptoms with a given concentration can only be utilized as a general guide, as they are considerably altered by such variables as exertion, depth of respiration, excitement, fear, pre-existing anemia or other factors affecting general bodily vigor, and altitude (partial pressure of $O_2$). Haldane [5] in a series of self experiments showed that the effects are most marked on the central nervous system. After preliminary symptoms of nausea, headache, dizziness, confusion and abdominal pains, he passed into a condition like that of acute alcoholism in which his judgment was lost, but he was unable to realize that his mind was not as clear as ever.

This is a matter of great importance on the fireground, for unless rigid observation and control of firemen who have been treated for smoke inhalation is observed, they may insist on returning to the burning building and attempting to fight the fire. Indeed, the compulsion and the excitement may be so great that the erstwhile patient will actually struggle with his rescuers. I have been struck in the face and cursed by a fireman whom I attempted to prevent from returning to a fireswept building, after he had partially recovered from the effects of smoke and CO inhalation. Later he assured me that he had little recollection of his behavior, which was out of line with his usual reasonable and agreeable character.

It can also be readily seen, that if consciousness is regained when there is still a high (30–45 percent) concentration of carbon monoxide hemoglobin in the blood not only will judgment be altered, but strength will be impaired, and it will take only a relatively minor re-exposure to smoke and fumes to bring a return of unconsciousness. Thus, far from helping his fellow fireman, *such a man will be an increased liability*, as he will probably again need rescue, and thus not only jeopardize his own life, and that of his fellows as well, but will take physically able personnel away from their task of extinguishment. For this reason, it is imperative that departments make careful plans in advance for rigidly enforcing the "no return" rule on individuals who have had to be assisted from a smoke filled structure or who have received treatment for "smoke inhalation." At the same time it must be made abundantly clear, from the ranking chief to the lowest rookie that *no stigma is attached to seeking treatment* for smoke inhalation, otherwise men will be reluctant to obtain necessary attention. In most departments where morale is high, firemen pride themselves on their ability to take it, to "eat smoke" under tough and dangerous conditions. Such an attitude is praiseworthy, but should not be carried to the point where it jeopardizes human life.

| Percent CO in Air | Effects |
|---|---|
| 0.02 | Possible mild frontal headache after 2 or 3 hours. |
| 0.04 | Frontal headache and nausea after 1–2 hours. Occipital (rear of head) headache after 2½ to 3½ hours. |
| 0.08 | Headache, dizziness and nausea in ¾ of an hour. Collapse and possible unconsciousness in 2 hours. |
| 0.16 | Headache, dizziness and nausea, in 20 minutes. Collapse, unconsciousness and possible death in 2 hours. |
| 0.32 | Headache and dizziness in 5 to 10 minutes, unconsciousness and danger of death in 30 minutes. |
| 0.64 | Headache and dizziness in 1 to 2 minutes, unconsciousness and danger of death in 10 to 15 minutes. |
| 1.28 | Immediate effect. Unconsciousness and danger of death in 1 to 3 minutes. |

| Percent of Carboxyhemoglobin | Effects |
|---|---|
| 10 | No appreciable effect except shortness of breath on vigorous muscular exertion. |
| 20 | No appreciable effect in most instances, except shortness of breath even on moderate exertion, occasionally slight headache. |
| 30 | Decided headache. Irritability, easy fatiguability, disturbed judgment, shortness of breath. |
| 40–50 | Headache, confusion, collapse and fainting on exertion. |
| 60–70 | Unconsciousness, respiratory failure and death if exposure is long continued. |
| 80 | Rapidly fatal. |
| Over 80 | Immediately fatal. |

**Physical effects observed in clinical tests when a victim has been exposed to atmosphere containing carbon monoxide, or has absorbed a certain amount of carbon monoxide in his blood. (Carboxyhemoglobin.)**

EVEN with simple asphyxiants, the after effects of anoxemia (defective oxygen content of blood and tissues), headache, disturbed judgment, and impairment of other bodily function, persist for some time after an ample supply of oxygen is restored. This is because an "oxygen debt" is built up in the tissues, and this equilibrium must be restored in addition to that between blood and oxygen. Even though active treatment can shorten the period of recovery, it is wise to set certain minimum time limits to three recovery periods.

Generally, firemen who have been sufficiently exposed to smoke and carbon monoxide fumes to require treatment should not return to active duty in less than four to six (4 to 6) hours, while those who have been rendered semiconscious or unconscious should rest 24 to 48 hours.

With brief exposures to high concentrations of carbon monoxide, with rapid absorption, the effects of anoxema may be suffered largely after the victim has been removed from the contaminated atmosphere. This may account for the common fireground phenomenon that firemen, exposed to dangerous concentrations of gas and realizing that it is imperative that they leave the poisoned atmosphere, undergo complete collapse on reaching fresh air.

Since this dangerous anoxemia may cause serious damage to brain and other tissues, it is of extreme importance to hasten elimination of carbon monoxide to shorten this period of postgassing asphyxia.

Henderson and Haggard [4] have stressed the importance of the progressive loss of carbon dioxide in carbon monoxide poisoning. They have attempted to show that in the breathing, but unconscious, victim of carbon monoxide poisoning, the rate of elimination of CO is progressively increased when carbon dioxide is

(*Please turn to page 22*)

# Making A Good Job of It

By Warren Y. Kimball

### Ladder Pipe Operation

WHEN a ladder pipe is in service the aerial ladder is in cantilever operation. That is, the ladder is supported at the base or turntable only and is not resting against a building.

The stream from a ladder pipe exerts a back pressure (depending upon size of stream and nozzle pressure) tending to push the ladder toward vertical. This back pressure may be in the order of 200 to 300 pounds.

Be sure ground jacks are properly set and use jack plates as necessary to increase surface area of jacks.

In spotting most tractor-drawn aerials for ladder pipe operation, it is desirable to have the tractor jackknifed for support and stability. With service aerials the truck can be positioned at an angle with the curb or building line. Of course, the best support is obtained by extending the ladder out over the front of the truck but few streets are wide enough to permit this sort of operation.

When the ladder pipe is being placed in service or is being shut down, pump pressure should be increased or decreased slowly to avoid any possible whipping action that might impose an unnecessary strain upon the ladder supports at the turntable.

In general, it is desirable to control the elevation of the ladder pipe by guy lines from the ground rather than to expose a hoseman to heat and smoke that may be encountered at the top of the ladder. A man may have to climb the ladder to observe the effect of the stream from time to time. This is another reason why any change of pressure should be made slowly so that the ladder will not whip.

A man operating a ladder pipe should wear a pompier belt or rope hose tool to secure himself to the ladder. Unfortunately, the hooks of some pompier belts are not large enough to go around aerial ladder rungs.

BEST results with ladder pipes usually are obtained by a fog nozzle discharging a fog cone of approximately 30 degrees. Some departments mark the adjustable fog nozzle for a 30 degree setting. A solid stream is not nearly as effective as a narrow fog cone because the solid stream lacks coverage. However, a wide angle fog cone may be ineffective due to insufficient reach of stream.

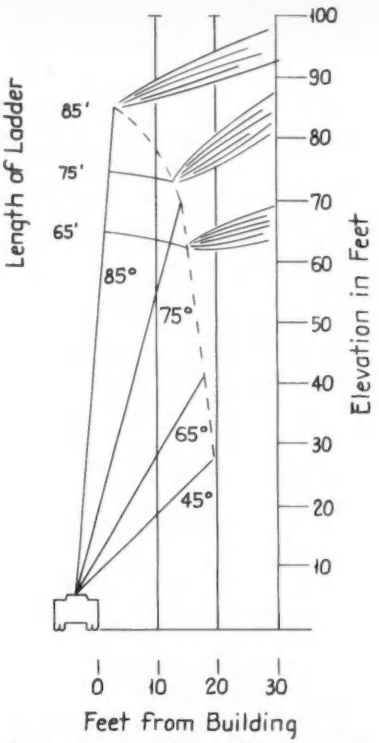
Where the ladder pipe is kept out from the building 20 to 30 feet, it will be possible to direct the stream into various windows at the same elevation by rotating the turntable without adjusting the angle of the ladder.

Aerial ladder manufacturers' instructions should be heeded in using ladder pipes but in general, unless the ladder pipe is to be placed in a window, it is recommended that the ladder be extended toward the building not over 20 ft. when the ladder pipe is operated at elevations up to 65 ft. For higher elevations a good rule might be to maintain the ladder at between 75 and 85 degrees.

Usually portable ladder pipes are placed on the tip of the fly ladder, but some ladder pipes are permanently attached to the underside of the bed ladder. It is not good practice to extend a fly ladder substantially above the ladder pipe as the fly may be subjected to damage from the fire.

The ladder pipe should always be operated at a right angle to the center line of the ladder to avoid severe strain due to twisting action. Where horizontal control of the direction of the stream is desired, the turntable should be rotated. In general, the effective horizontal coverage of the stream will be approximately the same as the distance from the nozzle to the building wall.

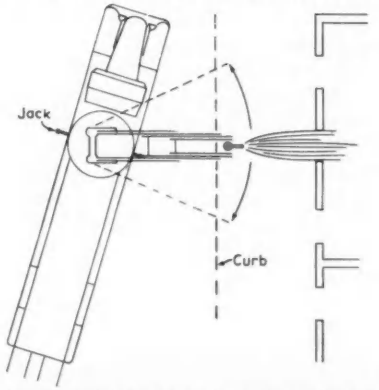
THE volume of water discharged from a ladder pipe should be in keeping with the flow capacity of the pipe at effective pressures. Some ladder pipes have very small waterways and cannot flow much over 400 gpm without excessive pressure losses. This would be the equivalent of a 1¼-in. tip at 80 lbs.



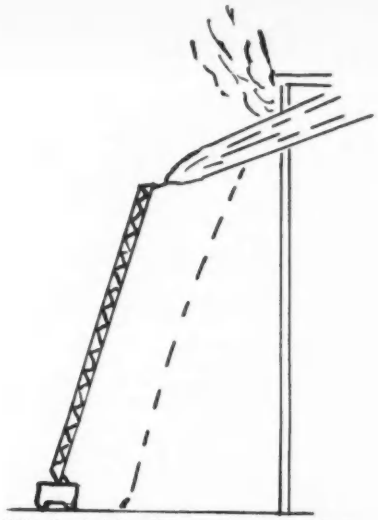

**Aerial ladders should be spotted at distances from the target building which will permit raising of the ladder to necessary heights. This chart presents a simple rule-of-thumb method of determining such placement. When supporting a ladder pipe the fly ladder should be 5 feet short of maximum extension.**

or a 400 gpm fog nozzle at 100 lbs. Other ladder pipes will handle 600 to 700 gpm efficiently. Such pipes can supply a 1½- or 1⅝-in. solid stream tip at 80 lbs. or a 700 gpm fog nozzle at 100 lbs.

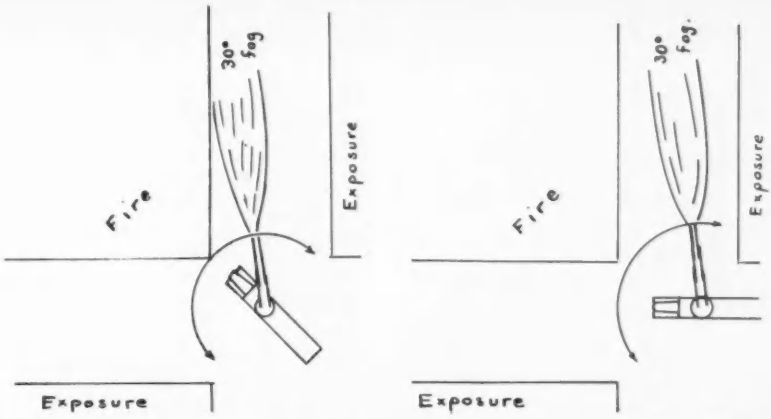
At least 3-in. hose should be used to supply ladder pipes. With 600 gpm flowing, the friction loss in 100 ft. leader line up the ladder is 30 lbs. with 3-in. hose, but 78 lbs. with 2½-in. hose. To this must be added the back pressure in the column of water amounting to 0.433 lbs. per



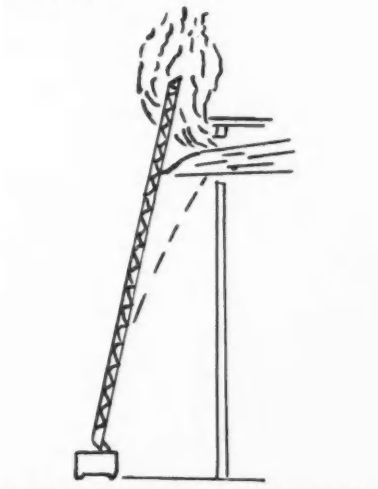

**Service aerial ladder trucks can be spotted at an angle to the curb or target building.**



With the ladder pipe nozzle at an effective angle and with proper placement of truck the ladder is not seriously endangered by heat or falling debris.




Placing of a ladder truck at an intersection may also be governed by the need for protecting exposures. While a good fog pattern may be successful in cooling the target fire, attention must be given to directing the fog from the best position. Keep trucks out of danger of falling walls and wires.

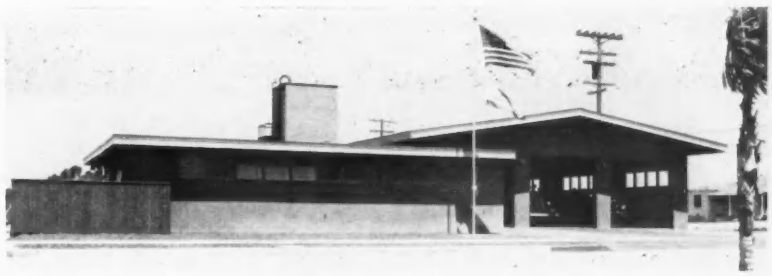


Placing the truck too close to the building with the nozzle close to a window exposes the ladder fly to heat blast and the truck is endangered by falling debris.

foot and the pressure loss in the ladder pipe, which may be as much as 40 lbs. in some appliances with small waterways. With 700 gpm flowing, pressure loss in 2½-in. hose would be over 100 lbs. per 100 ft.

IN placing aerial ladders for ladder pipe operation at a major fire, consideration must be given to the possibility that the building may become fully involved with heat or falling walls endangering the truck. If the ladder pipe is positioned and operated as suggested here, there should be little damage to the truck, barring an unforeseen explosion. However, where a building is fully involved and ladder pipes are needed to provide a water curtain, the truck may be spotted so that the fog will cover the exposed face of the fire without placing the ladder truck in line with falling walls (see illustration).

When the fire is knocked down with the ladder pipe the nozzle tip or fog nozzle may be removed and a 2½-in. donut roll attached to the end of the ladder pipe which then serves as a standpipe, thereby making it unnecessary to stretch a new line from a pumper up the ladder. If only a 1½-in. line is needed a 2½ x 1½-in. reducer can be attached to the ladder pipe.



## New Fire Headquarters in National City

THE handsome 1-story structure in this picture houses the new headquarters station of the National City, California, Fire Department. (NFPA member department.) The building was dedicated on April 3, when National City's Mayor Frank Sarn signalled official occupancy by giving the keys to Fire Chief J. C. Bailey. Until this time Fire Headquarters was housed in a 2-story brick building that dated back to 1910.

The new station property covers a half-block area of 115 x 250 feet and will include a paved drill yard, drafting tank and hydrants, all enclosed by fencing.

The headquarters station has an area of 7600 square feet and features a 3-door apparatus room capable of housing six pieces; administrative offices, dormitory, kitchen, recreation room, maintenance shop, and a combination drill and hose tower. Another feature is a smoke chamber for use in gas mask training. The drill tower is equipped with flood lights for night training operations.

The redwood fence at left of the photo encloses the recreation room, kitchen and dining area. The maintenance shop is at the rear of the building and opens onto the drill yard area.

Under Chief Bailey the National City Fire Department protects an area of approximately 6 square miles, which is primarily residential but is developing as an industrial center. The city has a population of 30,000.

# New Basis for Fire Plans in Civil Defense

NOW that there is an A-bomb or H-bomb available in almost any desired size, a statement of official policy for planning the defense of a city would provide a helpful guide to fire departments. Such a statement has been obtained by Kyle P. Laughlin of USFCDA. At the Regional Conference for Senior Fire Officers at Portland, Oregon, April 22, he said, "Select for planning purposes a size bomb which will include two-thirds of your city area in the zones of A, B, and C class damage." These damage categories are described in detail in USFCDA's manual on Urban Analysis (TM-8-1) but refer to areas in which brick-joisted and wood-frame buildings are damaged too severely to be occupied.

He gave an example of how this might work out for a U. S. city of about 350,000 population and corporate area of 40 square miles with dry, clear weather conditions which are the most dangerous from a fire viewpoint. A bomb releasing eight times the energy of a "nominal" or Hiroshima A-bomb (an "8X" bomb) is assumed. Damage to brick-joisted and wood-frame buildings would be complete in an area estimated to be 12.5 square miles. There would be zones of 15.7 and 22 square miles, the zones of "C" and "D" damage, outside the damaged center or a total of 37.7 square miles. It is in these zones that fire prevention and fire fighting measures could be made particularly effective and in these zones where the principal mass-fire threat would develop.

Individual objects ignited by the radiant heat of the fireball would be numbered by thousands per square mile in these zones, and could be as many as 10,000 per square mile in characteristically dirty areas of a city, such as slum areas and those areas devoted to wholesale business.

NFPA Chief Engineer Horatio Bond, also a speaker at the conference, supplemented Mr. Laughlin's report with the observation that by clean-up campaigns and by training of people in first-aid fire fighting, the number of fires developing from the huge number of probable ignitions could be tremendously reduced so that the fire situations with which fire-fighting companies are faced would be a more nearly manageable number. World War II experience showed that four of every five fires started by incendiaries were put out by first-aid fire fighters, he reported to the conference.

Panel at Senior Fire Officers' Conference at Portland. In background, Robert B. Taylor, SX Oregon State Fire Marshal and chairman of the session. Seated, left to right: Captain G. Rehor, Oakland, California, Fire Department; Chief George Courser, San Diego; Battalion Chief A. Galli, San Francisco; Horatio Bond, NFPA Chief Engineer and chairman of panel; Chief Edward Grenfell, Portland; and Chief Gayle V. Coger, Fresno, California.

## Occupancy Fire Records

THE third in a new series of fire records prepared by the NFPA Fire Record Department is now available.

"Occupancy Fire Record-Foundries" (FR54–3) includes reports of fires in iron and other metal foundries, photos of foundry fires and an analysis of fire causes. Previous occupancy fire records issued include "Garages" (FR54–1) and "Supermarkets" (FR54–2).

Single copies of these reports may be obtained for fifty cents each. Discounts are allowed for quantity purchases. Order by pamphlet number from the NFPA Publications Department, 60 Batterymarch Street, Boston 10, Massachusetts.

## Fire and the Atomic Bomb

DURING 1952 a paper entitled "Fire and the Atomic Bomb" was prepared for senior fire officers and senior members of civil defense organizations by the British Home Office. The author is Mr. D. I. Lawson, staff member of the Fire Research Board, British Department of Scientific and Industrial Research and Fire Offices' Committee.

This publication is the best document in print that explains how atomic bombs set fires by radiant heat. It is well illustrated with a number of illustrations in color. It discusses the fire danger of the flash period of an atomic bomb explosion; shows how the ignition of substances, both inside and outside of buildings, is accomplished; and how the radiant heat effects are modified by distance, atmospheric visibility, or other factors.

The paper has just been published with a 1954 date as Fire Research Bulletin No. 1 and is available from H. M. Stationery Office for two shillings sixpence net, 40 pages (available in the United States from British Information Services, 30 Rockefeller Plaza, New York 20, N. Y., for 65 cents).

## SEP Covers ADT

IN A STORY entitled "They Make Life Tough for Burglars," in the May 29th issue of the *Saturday Evening Post*, writer Alan Hynd reported on the operations of the American District Telegraph Company. The story discussed the development of new electrical and electronic devices used for fire and burglar protection. Free reprints may be obtained from ADT, 155 Sixth Avenue, New York 13, New York.

## Fire Hazard Short Course

THE fifth annual "Fire Hazard Short Course," sponsored by the School of Technical Training, Oklahoma Institute of Technology, is scheduled to be held June 14–25. The course is conducted by Professor R. J. Douglas of Oklahoma A & M College and member of the NFPA Committee on Firemen's Training. Further information may be obtained from the Director, Division of Engineering and Industrial Extension, Oklahoma Institute of Technology, Stillwater, Oklahoma.

# "A Day in the Life of a Fireman"

THINGS perhaps haven't changed much, as shown by these cartoons, first published in 1881 and recently sent to the NFPA Fire Services Department.

Of course the modern fire fighter would *never* permit his figure to develop the proportions of the moon-faced specimen below. And certainly he wouldn't idle his time away puffing on a "T.D." and ogling selected passing citizens, when he can perform more laudable tasks.

Take sleeping, too. While the bunker clothes are still with us, eye-closing has seen some progress. Now the night shift sleeps with both eyes shut (and sometimes ears), secure in the knowledge that if the bell or tapper hits, house lights and gong will gently urge them to "turn out."

There are still some 750,000 volunteers who can make the pants-buttoning exit as gracefully as our friend below. And certainly tillermen everywhere pose for TV cameras as gracefully and enthusiastically as our friend.

Rescue techniques, perhaps, have slipped a bit, for we seldom see such nonchalance in descending a ladder. And few fire fighters could make this "family carry" with the suavity displayed by our competent friend who scorns the law of gravity.

Major change, as we see it, is in the last picture. No fire fighter would want that *much* lager after a fire. Besides, who can afford a schooner of that size at today's prices? It's nice to know where they're served, though!

**THE FIREMAN**
*Scene at every engine house on a dull day. Taking his ease.*

**THE FIREMAN**
*A Fireman always sleeps with one foot out of bed, with his hands on his boots, and with both ears and one eye open.*

**THE FIREMAN**
*The midnight alarm.*

**THE FIREMAN**
*Steering a ladder truck on its way to a fire.*

**THE FIREMAN**
*A systematic arrangement by means of which a single Fireman can rescue a whole family.*

**THE FIREMAN**
*Home from a hard fought fire. The cooling off process.*

**2nd Prize, $100 — "There She Goes!"** — William Hawkins of the Pueblo, Colorado, *Star Journal*, got this picture at 4 A.M. on August 29, 1953. One man was killed, three buildings destroyed, and seven others damaged in this fire. The 5-story Central Block building in this picture collapsed 25 minutes after first apparatus arrived. (See FIREMEN for October, 1953.)

**3rd Prize, $50 — "God, please save my home!"** — Fire fighters frequently witness such emotional expressions as are portrayed in this picture. It was taken by Joe Lafferty, of the Beaver Falls, Pennsylvania, *News-Tribune*, who saw this grief-stricken woman watching fire destroy her home and possessions. The simple, but universal appeal of this photo made it a prize-winner.

# Winners of the *Fourth Annual Fire Foto of the Year Contest*

## *1st Prize – $250 – (See front cover)*

SELECTING winners in any contest is an unenviable job. Picking the best fire photo of the year certainly is not an easy assignment. Yet, as in every competition, "class tells," and this year three of our nation's photographers are happier because of winning top money prizes in the Fourth Annual Fire Foto of the Year Contest.

The Contest is sponsored each year by the National Fire Protection Association and the National Press Photographers' Association. All staff and free-lance photographers in the United States and Canada are eligible to submit fire-connected pictures. Judging is based on a point system devised by NPPA.

This year's judges of the Contest were: NFPA General Manager Percy Bugbee; Joseph Costa, of King Features and Chairman of the Board of the NPPA; Richard Anderson, editor, Metropolitan Sunday Newspapers, Inc.; William C. Eckenberg of the N. Y. *Times* and Norris Harkness, Pres., Photographic Soc. of America.

Prizes were awarded during the 58th NFPA Annual Meeting.

## *Honorable Mention*

**(Left) "Fireman Shortage"** — Harold R. Spicer of the Baltimore, Maryland, *News-Post*, snapped this picture of a ship supply store in the process of destruction by fire. The incident occurred during Baltimore's waterfront fire on February 17, 1953, a tough day for fire fighters since two multiple alarm fires occurred, with damage amounting to millions of dollars. (See FIREMEN for April, 1953.)

**(Right) "Comfort Comes First!"** — Another honorable mention certificate was awarded to Theodore L. Lau of the San Diego, California, *Union Tribune*, for this photo.

# Are You Making the Most of

# *Your Newspaper?*

DOES a selected member of your fire department make frequent contact with newspaper editors in your community? If not, then your department is not making the best use of an excellent means of "reaching" the public.

Particularly in rural communities, newspaper editors have strong preferences for campaigns which lead to community betterment, including inspection programs by fire department personnel, proposed laws and ordinances to minimize fire hazards, and constructing of farm ponds and other sources of water supply for fire fighting.

These preferences were evident in a recent sampling of opinions of 449 editors of weekly U. S. newspapers. The poll was conducted by the *American Press Magazine*, published by the American Press Association, 920 Broadway, New York 10, New York. The April issue of the magazine presented the results which should be of interest to fire departments.

Fire inspections, laws and ordinances, and water supply were considered most important by the editors if fire losses are to be reduced. However, 24 percent of those queried cited the need for more *fire fighting publicity* in their papers.

For fire prevention publicity 50 percent of the editors stated that they were using newspaper mats provided through the NFPA-Advertising Council Home Fire Prevention Campaign. (*These may be obtained free by writing to The Advertising Council at any of these offices: 25 West 45th Street, New York, 36, New York; 1200 18th Street, N.W., Washington 6, D. C.; 203 North Wabash Avenue, Chicago 1, Illinois; or 425 Bush Street, San Francisco 8, California,* — ED.)

To the question "*Would you use more material on fire safety if it was sent to you?*" 64 percent of the editors responded that they would.

A second part of the question which asked what additional material would be preferred brought this response: 52 percent said that they would like cartoons, 21 percent asked for features on fire prevention, and 9 percent said they would like columns by fire authorities.

**Editors' Suggestions of What Newspaper Publishers and Editors Can Do to Reduce Fire Losses**

*(As reported in poll conducted by "The American Press Magazine")*

- Back bond issues to raise money for needed equipment.
- Sponsor rural fire associations.
- Help put through adequate fire ordinances.
- Editorialize on need for better equipment.
- Run features and pictures about local fire hazards.
- Arrange for fire department to sell and service fire extinguishers.
- Run pictures and stories about farm ponds for fire fighting.
- Join the volunteer fire department — encourage other members of the newspaper staff to do so.
- Analyze fire insurance classifications and tell how rates could be reduced.
- Warn "fire chasers" to keep out of firemen's way.
- Discourage smoking in bed.
- Cite causes of fires in fire stories.
- Back Fire Prevention Week and Spring Clean-Up Week.
- Warn readers against Christmas tree fire dangers.
- Run fire stories with pictures, on front page.
- Publish check-lists of fire hazards.
- Encourage and report local inspections.
- Help form rural fire districts.
- Publish box each week on number of "fireless" days.
- Urge school children to visit local fire houses.
- Push ordinance requiring every home to have fire extinguisher.
- Publish regular reports of the fire chief.
- Run cartoons warning of fire hazards.
- Get local agents to sponsor ads.
- Publish special Fire Prevention Week issue in the Fall.
- Instruct readers on how to report a fire.
- Help fire department build card files with data on every farm in the area.
- Discourage cigarette smoking.
- Get Boy Scouts to sponsor Fire Prevention Day.

THERE are more than 9,000 weekly newspapers in the United States, but these opinions of 449 editors may be taken as a representative sample. Because of their sense of responsibility for educating the public in fire safety, news reporters and editors can be extremely helpful to fire departments planning year-round campaigns of fire prevention and public relations.

It is essential, however, that fire departments select an officer or other department member to maintain direct contact with the newspapers in the community. All information concerning the fire department should be available to this person, who can then transmit it to the newspapers. By conferring with reporters and editors the fire department representative will learn how written material should be prepared to simplify the editorial procedures in the newspaper office.

He can also learn how and when the newspaper uses "features" such as Fire Prevention Week and Spring Clean-Up Campaign material, articles on fund-raising and civic campaigns, and other types of news which will direct public attention to the fire department's accomplishments.

Many fire departments have their own photographers who are members and who are on hand to get pictures of action at fires, of inspection programs and other activities. It is always good practice to send prints of these photographs promptly to newspaper editors, who may be looking for particular action photos.

Throughout the year your newspaper can tell some excellent stories of what your fire department is doing, provided the men who write the paper are kept informed. Why not conduct your own "poll" of the editors?

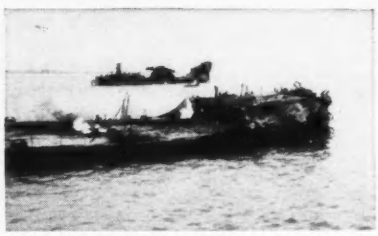
# The tanker was in flames with 160,000 barrels of high hazard gasoline aboard!

It ignited when it collided with another tanker in the Delaware River. A ten-man Navy team, from damage control training center, Naval Base, Philadelphia, under the direction of Lieutenant Commander Louis O. Lindeman, came to the rescue in the tug U.S.S. Toka. Using Rockwood fire-fighting equipment, here is what they did:

**NAVY FIRE FIGHTERS** using a Rockwood FFF FogFOAM Nozzle direct FOAM into the deck and holds of the burning tanker. Note blanket of FOAM on aft deck.

**APPROACHING TANKER,** Navy Fire Fighters discharge FogFOAM Nozzles on deck of burning tanker extinguishing fire and cooling deck permitting men to board tanker to put out fire in hold.

**MEN ON TUG** cool tanker deck with Rockwood FOAM discharged from Rockwood 2½" FFF FogFOAM nozzle. Note FOAM on men, protecting them from intense heat.



**THE FIRE IS OUT** – and 92% of the cargo saved! During fire-fighting, FOAM was also pumped into tanks below deck. Entire operation took 6 hours. Tanker in distance was cause of fire.

**GET MORE FACTS** about Rockwood equipment by writing for the informative, 12-page booklet "Rockwood Fire Fighting Products." Rockwood Sprinkler Company, Portable Fire Protection Division, 286 Harlow St., Worcester 5, Mass.

**ROCKWOOD SPRINKLER COMPANY**

*Engineers Water . . . to Cut Fire Losses*

ROCKWOOD

**Portable Fire Protection Division**

## "First Aid and Resuscitation"

AN INTERESTING manual with the above title has been prepared for use by fire department rescue squads and other organizations which specialize in first aid and resuscitation. The 352-page book was authored by Carl B. Young, Jr., who, in addition to being a Master of Public Health, has served with the Harris County Emergency Corps in Houston, Texas, and as a first lieutenant in the Medical Service Corps of the U. S. Army.

There are 168 illustrations in "First Aid and Resuscitation," many of them being on-the-spot pictures of victims of serious or fatal physical injury, with captions explaining the important first aid treatment which should be rendered for each particular case.

Topics covered in the chapters include: general first aid procedures, treatment of shock, handling unconscious patients, respiratory and circulatory systems, resuscitation, transportation of seriously ill or injured, procedures at scene of emergency, equipment for emergency ambulances, heart emergencies, acute indigestion, cerebral vascular accidents, respiratory emergencies, chest injuries, drug and alcoholic intoxication, electric shock, submersion (as in drowning), asphyxia, burns, and other physical injuries which rescue squads frequently encounter.

There is also a chapter on responding to emergencies and a section on keeping charts and other records and statistics which would be helpful to a rescue organization.

Price of "First Aid and Resuscitation" is $8.50 per copy. It may be obtained by writing to Charles C. Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois.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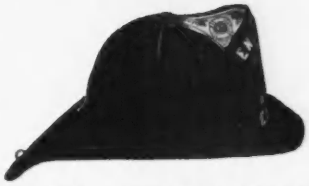

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# SINCE 1836

## Carbon Monoxide in Fire Fighting

(*Continued from page 13*)

added to therapeutic oxygen in appropriate amounts (5–10 percent).

In many cases, where exertion prior to gassing has been short and violent, $CO_2$ (carbon dioxide) may still be present in considerable amounts in the blood stream and the addition of more $CO_2$ is therefore not only of no benefit, but may be harmful. In the non-breather, artificial respiration is required to deliver *oxygen* to the lungs, either by manual methods or by mechanical resuscitator and the oxygen will be supplied regardless of the presence of $CO_2$ in the blood stream, the respiratory center, or in the resuscitating gas.

TREATMENT, then should consist of the following procedures: (1) Removal of the victim to fresh air as speedily as possible. If the victim is breathing spontaneously, 100 percent oxygen should be administered by closed system inhalators. If breathing is slow or shallow, this may be augmented by cautiously adding carbon dioxide in 5–10 percent concentrations (Carbogen 95–5/93–7, 90–10 percent), and the administration of this mixture should be continued for as long a period as deeper respirations seem to be stimulated.

If the breathing is absent, or slow enough to require artificial respiration, either manually or by means of properly operated resuscitators, then 100 percent oxygen should be used. Manual artificial respiration should be of the push and pull type and should be either arm-lift backpressure (Holger-Nielsen), hip lift back pressure, or Sylvester method, since these methods give the greatest volume of air exchange (9) supplemented where possible by an inhalator supplying 100 percent oxygen.

After consciousness returns, the patient should be kept lying on his back or semi-recumbent and perfectly quiet, and inhalations of oxygen continued for 30 to 60 minutes. Appropriate antishock measures should be undertaken in every case.

It is my personal opinion, that carbon dioxide inhalations are unnecessary and undesirable in lay hands. Since simplicity and speed of operation are the keys to successful treatment 100 percent oxygen should be administered in all cases. Only where trained physicians are present to administer carbon dioxide, should its use be contemplated. It may then be administered either as a carbogen mixture, or separately, in pure form, from an open cone, in a few whiffs designed to deepen respiration (10).

(*Conclusion will be published in a forthcoming issue of* FIREMEN.—Ed.)

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## "As She is Wrote"

THERE'S a lot of good tongue-in-cheek humor in "The Nines," a journal of the Hertfordshire Fire and Ambulance Brigade, Hertfordshire, England. Here's a column entitled "As She Is Wrote" and authored by someone named "S.S.O." It appeared in the January, 1954, issue:

"Headquarters' Officers conjure up such queer pictures in their minds when care is not taken with fire reports.

"We imagine distressed hula girls when we read of 'a quantity of waist straw' being burned and sadistic firemen wielding axes when the report says that a 'fireman cut off main switch.' Our reaction to the statement that the fire was discovered by a 'policeman on heat' was remarkable.

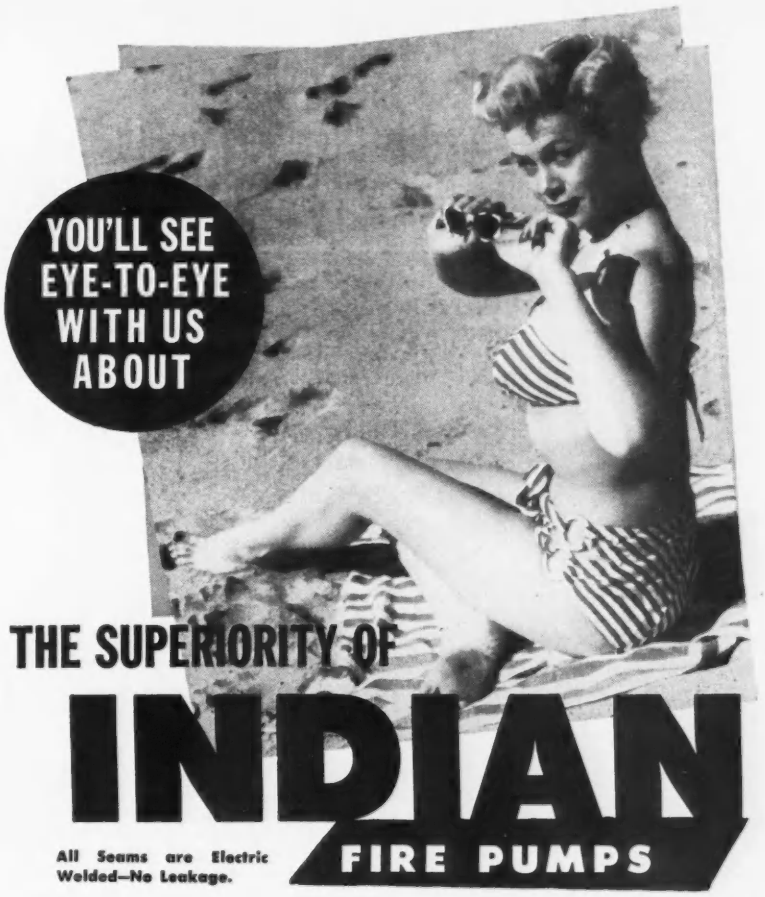
"So please do not report that the cause of fire was that a 'small child ignited paper from domestic fire which blew under a chair.' It is hard to imagine fireplaces and hearths under chairs. And do not make us feel sorry for the disowned offspring by reporting that a 'gas tap was turned on by child unknown to parent.' We can imagine some children being disowned when we read that the 'room and contents were damaged by Walter.' Children are not always responsible; there are other pyromaniacs. 'Mr. ——— was extremely worried about the fire — he had planned extensive improvements.'

"Bonfire built too near some bushes which got out of control.' Were the police informed? How were the bushes rounded up? You must answer additional questions if you include such statements in your reports. If sending up an addendum or corrigendum, please remember that it wastes time to carry out the following instruction 'Cause of fire — delete "unknown," add "to remain unknown".'

"We like the brilliant deductions of the officer in charge who decides that the cause of the fire is 'combustion.' The one who thinks that a fire, 'out on arrival,' is under control five minutes after he gets there, is just being cautious.

"Examination papers require care also. The examiner understands

(*Continued on next page*)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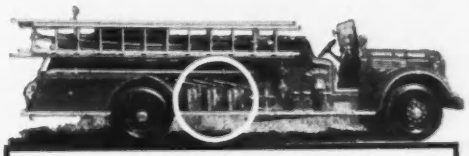

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## As She Is Wrote

(*Continued from page 23*)

what a candidate is trying to say when he reads 'a vacuum reading on the compound gauge of an intermediate pump in a relay indicates that the pump is delivering far more water than it is receiving.' But it sounds silly. Remember, too, that a marker would rather read that a rectifier is a device to convert A.C. to D.C. current than that it is a component to convert an electric flow constantly and rhythmically changing polarity into a unidirectional flow. It takes longer to write that and means the same.

"Remember that in report writing standardization and servility can be overdone and that individuality is essential but that for routine matters you may be guided by standard phraseology that has stood the test of time. Any report must be readable, concise and relevant. Look to the sequence and keep the facts in chronological order. By the way — stick to facts and do not add suppositions although you may give opinions. Be fair, attach other documents necessary to support your report, including sketches.

"Practice laying out a report in an orderly manner by leaving room for observations to be noted on the report. Let there be no doubt about the name, rank and station of the sender and of the intended recipient.

"As a last recommendation — if your writing is akin to that of some officers we know, use a typewriter or engage somebody with a more legible fist to write the report."

### SEALED BID NOTICE
#### 1000 G.P.M. Pumper

In accordance with the Town Ordinance regulating Disposition of Town Owned Property, sealed bids will be received at the office of Director of Public Works, 740 Main Street, East Hartford, Connecticut, until 2:00 p.m. on Friday, August 27, 1954.

**Property for bid is as follows:**

1. **1930 Mack 1000 G.P.M., Triple Combination Pumper equipped with 100 gal. Booster Tank. Model A.P. Type 19.**

Pumper is located at Fire Headquarters, 738 Main Street, East Hartford, Connecticut. Address all inquiries to Chief Francis J. Dagon, East Hartford Fire Department, 738 Main Street, East Hartford, Connecticut.

The Town reserves the right to reject any or all bids when such action is deemed to the best interest of the Town of East Hartford.

**By: Town of East Hartford**
**Disposition Committee**
**Leland A. Sparks, *Chairman***
**George J. Penney, *Secretary***
**Andrew V. Carlson**

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Assistant Secretary
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### Another Legal Opinion

ATTORNEY General Arnold H. Olsen of the State of Montana has rendered another legal opinion favorable to firemen. (See April, 1954, issue of FIREMEN for ruling on firemen's pensions.) In his latest opinion, the Attorney General ruled "that a paid city fireman member of a Fire Department Relief Association is entitled to payment from the association for sickness or injuries incurred in line of duty while answering a rural call."

The opinion was requested by the Commissioner of Insurance of the State of Montana and the Fire Department Relief Association of Livingston, Montana.

In giving his opinion Olsen determined that the basic question involved was:

"May a paid city fireman injured while answering a rural fire call, draw disability payments from the Fire Department Relief Association?"

According to the State's statutes for fire department relief associations a fireman member, to be eligible for sickness or injury benefits, must have incurred his injury or sickness in line of duty. "Line of duty" was interpreted to mean doing the work of his employment in following the orders of his superiors.

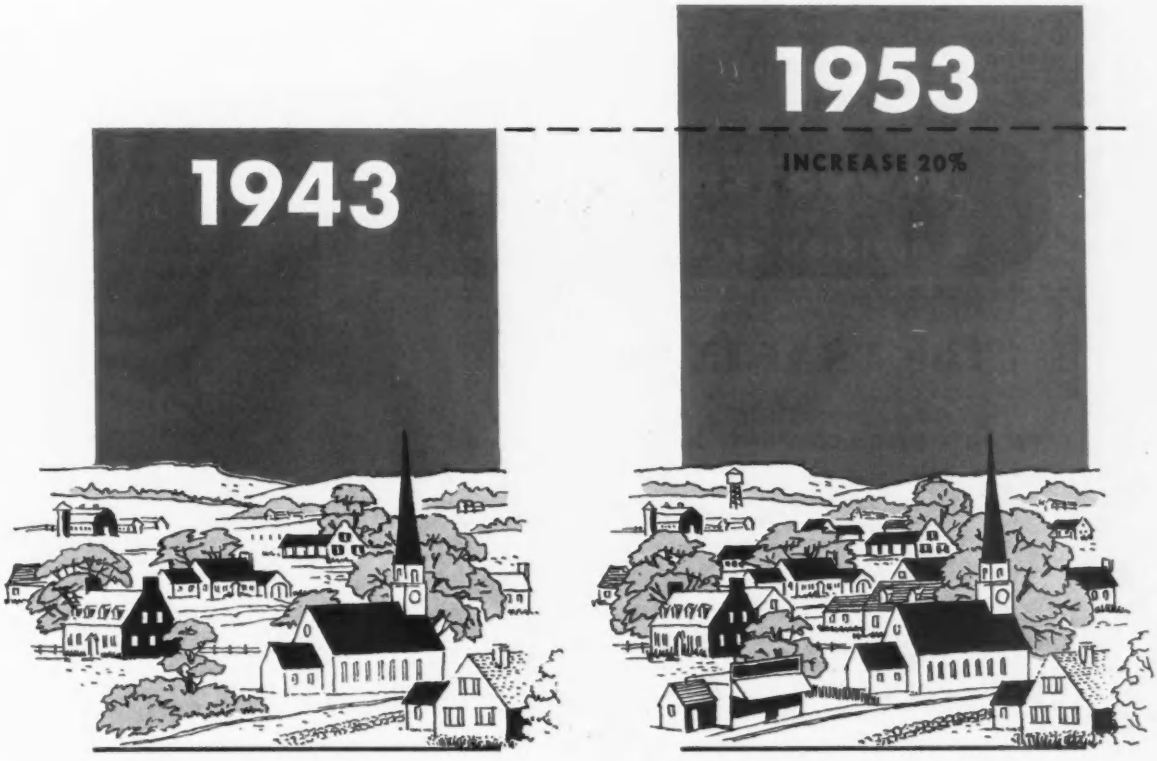
The Attorney General found that pension statutes should be liberally construed in favor of the intended beneficiary; that the duties of a fireman are to follow the instructions of his superior officers in the performance of some of the actual physical work in the fighting of fires and work incident to that occupation; and that a fireman answering a call in a neighboring city at the order of his superior has been considered as acting in "line of duty."

He ruled that it is not incumbent upon the fireman prior to answering a call to make an independent determination of the facts ulterior to his principle job purpose, i.e., the fighting of fires.

Supporting his opinion he referred to this legal opinion of a previous case in the State of Montana:

"Members of a police or fire department are often required to perform duties which place them in great danger and every encouragement should be given them to faithfully discharge the duties which are assigned to them."

# This is YOUR Community

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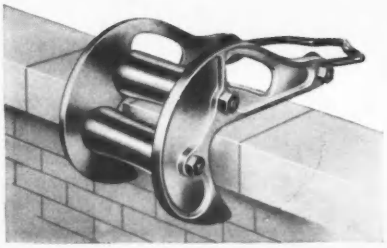

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## Membership Report

WHO reads FIREMEN? Each month this column lists the number of fire chiefs and fire departments who participate in NFPA Fire Department Membership. For example, the newly enrolled chiefs and departments listed below bring this membership to 2,064 fire departments and 25,015 men. This, however, does not represent the complete circulation of FIREMEN magazine.

A six-months average of circulation figures shows that in addition to the chiefs and departments who have NFPA Fire Department Membership, FIREMEN subscribers include 772 fire protection engineers, 470 assistant, battalion, deputy or district chiefs, 366 captains, 245 lieutenants, 96 training officers and drill masters, 65 fire commissioners and 26 city fire marshals. At least 20,000 other firemen also subscribe to the magazine each month. Memberships of Industrial and airport fire departments and firemen's associations bring the total average monthly circulation to 32,340 copies.

### *NFPA Welcomes:*

**California:** Chief Russell Gordon, Florin Fire Department, Florin; Quincy Volunteer Fire Department, Quincy; Tuxedo-Country Club Volunteer Firemen's Association, Chief Floyd Hill, Stockton.

**Connecticut:** Stafford Fire Department No. 1, Inc., Staffordville; Suffield Volunteer Fire Department, Suffield.

**Illinois:** Chief Earl H. Tennert, La Grange Fire Department, La Grange.

**Massachusetts:** Chief Philip J. Robichaud, Hanson Fire Department, Hanson.

**New Jersey:** Chief Clifford Ballogh, Saddle River Fire Association, Saddle River.

**New York:** Chief P. Wolfstitch, Fuller Road Fire Department, Inc., Albany; Chief George Stemmler, Broad Channel Volunteers, Broad Channel; Chief Robert L. Gurney, Hillcrest Fire Company, Inc., Binghamton; North Boston Volunteer Fire Company, Inc., North Boston; The Pittsford Fire District, Chief Clarence Tobey, Pittsford.

**Ohio:** Chief R. B. Wise, Mogadore Fire Department, Mogadore.

**Oregon:** Chief Marvin Fredericks, Oswego Fire Department, Oswego.

**Rhode Island:** Lonsdale Fire District, Inc., Lonsdale.

**Washington:** South End Smoke Eaters (Snohomish County Fire Protection District No. 6), Everett.

**Wisconsin:** Cedarburg Fire Department, Cedarburg; Chief Howard Munson, Fond du Lac.

**Canada**

**Northwest Territory:** Chief D. Prevost, Aklavik Volunteer Fire Brigade, Aklavik.

**Saskatchewan:** Chief W. Dempster, Unity Fire Department, Unity.

# *Are* ALL *of your fire fighters receiving* FIREMEN?

IS YOUR fire department receiving SIX (6) subscriptions to FIREMEN with its NFPA Fire Department Membership? Are these magazines being distributed properly to the officers and men in your department? Have you asked how many members in your department would like to receive extra subscriptions to FIREMEN during the coming year for only $1.25 each? Are the other publications that are included in your membership being made available through your department library?

This is a good time to "poll" your fire fighters and to make certain that your department is receiving the full benefits of its membership in the NFPA. Here is an outline of what NFPA Fire Department Membership can bring to you and your fire department:

If you are a member of the uniformed fire service, membership will cost $12.50 per year and will include subscriptions to FIREMEN, to the monthly *Fire News*, to the NFPA *Quarterly*, and also a number of important publications which are made available to members from time to time. You will also receive a handsome membership certificate, suitable for framing.

If your fire department enrolls as a unit, or if you are a fire chief, then SIX (6) subscriptions of FIREMEN will be included in the membership, together with the above publications, for the same $12.50. If you desire to have more than six subscriptions sent to your department, then additional subscriptions will cost $1.25 each.

NFPA Fire Department Membership is available to individuals in the uniformed fire service, and to any paid, call, or volunteer fire department. The "six-copy" plan of membership is available only to municipal fire chiefs and fire departments.

Industrial fire brigades and other members of NFPA may secure subscriptions to FIREMEN for $1.25 per year in addition to regular membership dues.

Why not make certain that all of your fire fighters have opportunity to receive FIREMEN? Merely fill out the application blank below and mail it to the NATIONAL FIRE PROTECTION ASSOCIATION, 60 Batterymarch Street, Boston 10, Massachusetts.

**CLIP ALONG THIS LINE AND MAIL TO ADDRESS BELOW**

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**NATIONAL FIRE PROTECTION ASSOCIATION**
**60 Batterymarch Street, Boston 10, Mass., U.S.A.**

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**Please enroll** .....

☐ Individual (Chief)
☐ Municipal Fire Department (Paid)
☐ Municipal Call or Volunteer Department or Company
☐ Industrial Fire Brigade (membership fee $12.50, plus $1.25 per subscription of FIREMEN per year.
☐ Government Installation Fire Departments — Membership fee $12.50, plus $1.25 per subscription of FIREMEN per year.

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Fire departments and chiefs of such departments joining NFPA should send mailing list for 6 subscriptions to NFPA FIREMEN magazine. Additional subscriptions cost $1.25 each.

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AND BI-LATERAL was *first* to furnish *free* fire hose record cards to fire departments. They are *still* available — send for a supply!

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## New Techniques at Rhode Island Fire Tests

*(Continued from page 11)*

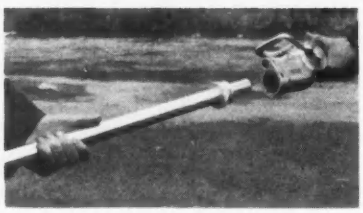
experimentally to knock down these fires, which could be controlled in a matter of seconds.

While many fire departments have made extensive use of fog applicators in building fires, it is believed this is the first time that such equipment was specifically designed for general Class A structural fire fighting.

It was found that the tip end could be directed into the structure to reach through doorways and past other obstructions (see photos on page 11) that would be almost impossible to reach by a hose stream operated through a window from a ladder. It is also interesting that when the fire was allowed to burn through the roof, the applicator could be used as a small water tower to sweep the roof and knock the fire back inside. At almost any time, until it was decided to discontinue fire fighting, it would have been possible to have taken a 1½-in. fog nozzle inside to mop up the remaining fire.

After the structure had burned, the officials of the Sanitorium provided a chicken dinner for all of the fire fighters in appreciation for their cooperation in removing the unwanted building.

Here a 30° 85 gpm fog tip is inserted in applicator nozzle. The slight bend in the piping throws the fog into the upper atmospheric area at the proper angle of operation.



The desired length of straight aluminum piping is inserted into a 1½-in. aluminum fog nozzle.

With only 10 ft. of piping two hosemen direct a stream to an effective elevation of more than 25 ft. providing an excellent device for controlling exterior fires such as those involving back porches.

## Large Loss Fires of 1953

A REPRINT of the report "Q47–10–Large Loss Fires of 1953," which appeared in the January, 1954, edition of the *NFPA Quarterly*, is now available. Priced at $1.00 per copy, (discounts for quantity purchases), the 96-page illustrated booklet offers a thorough study of the major fires which occurred last year.

Selected for special study were the major fire loss incidents in manufacturing plants; 48 of the largest warehouse fires; 29 store fires; 13 school fires; 3 electric generating plant fires; 5 lumber yard fires; large loss fires in garages; 3 church fires; hotel and other residential fires; aircraft and other transportation fire incidents.

In addition to these groups an analysis is given of 33 other major fires in 1953.

Copies of the reprint may be obtained by writing to the NFPA Publications Department, 60 Batterymarch Street, Boston 10, Massachusetts. Refer to the number "Q47–10" when ordering.

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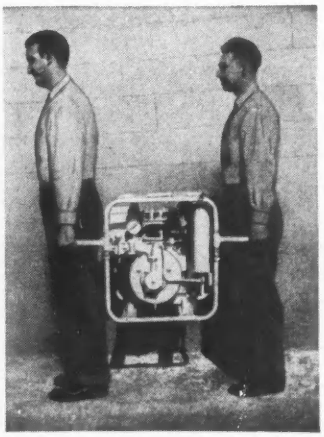

**Above — Frame-mounted FZZ can be easily carried by two men. It is also available mounted on rubber cushioned steel channels, or on two truck-type wheels.**

Fire Companies frequently write us telling of the many practical ways they use their portable Hale type FZZ, such as the following:

- For fighting field or forest fires from moving trucks.
- For "wetting down" and standby use, thus releasing major equipment.
- For pumping out flooded cellars and elevator shafts after fire, flood or other emergency.
- For relaying water to pump or booster tank from sources inaccessible to major Fire Pumpers.
- For factory protection in fighting fires before major equipment arrives.
- For fighting oil or other type fires requiring foam. (Built-in foam proportioner available when specified.)

The FZZ will supply from draft, 60 GPM at 90 lbs. pump pressure; and 150 GPM at 30 lbs. Can supply two capable streams through 1½-in. lines, using nozzle tips up to ½ in.

**Note:** Discharge Adapter can be supplied for use with 2½-in. fire hose.

***Write for new folder today.***
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## Dates to Remember

**Arizona:** The Second Annual Arizona State Fire Training School is scheduled to be held in Phoenix, October 14, 15 and 16. Write to: Edwin C. Gracey, Supervisor of Trade and Industrial and Distributive Education, Department of Vocational Education, 400 Arizona State Building, Phoenix, Arizona.

**Delaware:** The 6th Annual Short Course for Firemen will be held in Dover, July 19–22. Write to Frank M. Forstburg, State Board for Vocational Education, 511 W. 8th St., Wilmington, Delaware.

**Florida:** Sessions of the Florida State Fire College will be held at Ocala July 19 and August 20. Write to W. H. Barnett, Superintendent, State Fire College, P.O. Box 785, Ocala, Florida.

**Illinois:** The 30th Annual Fire College will be held at the University of Illinois, Champaign-Urbana, June 21–24. Write to Director George W. Harper, 234 Mechanical Engineering Building, Urbana, Illinois.

**Indiana:** The 21st Annual Indiana State Fire School will be held at Purdue University, Lafayette, September 14–17. Write to Director Francis W. Hartman, Chief of Fire Training, Bldg. FWA7, Purdue University, West Lafayette, Indiana.

**Kansas:** The 25th Annual Kansas State Fire School will be held at the University of Kansas in Hutchinson, October 12–15. Write to Director Gerald Pearson, University of Kansas Extension Classes, 111 Fraser Hall, Lawrence, Kansas.

**Maryland:** The 21st Annual Short Course will be held at the University of Maryland, College Park, September 7–10. Write to Robert C. Byrus, Director, Fire Service Extension, Box 85, University of Maryland, College Park, Maryland.

**Michigan:** The Michigan Fire College will be held at the University of Michigan, Ann Arbor, June 15–18. Write to Director M. D. Whale, Supervisor, Public Service Training, P. O. Box 928, Lansing, Michigan.

**Montana:** The Montana State Firemen's School will be held at Polson, August 25–28. Write to Clayton Brown, Fire Chief, Polson, Montana.

**Ohio:** The 9th Annual Ohio State Fire School will be held in Columbus, September 7–11. Write to Dr. Henry Walker, Director of Political Science, Ohio State University, Columbus, Ohio.

**Pennsylvania:** The Pennsylvania Fire School's 16th Annual Round-Up will be held at Lewistown, August 2–6. Write to Edgar A. Spotz, Adviser, Fire Service Training, Box 911, Harrisburg, Pennsylvania.

**Pennsylvania:** The 16th Annual Convention of the New York-Penn Firemen's Association will be held at Elkland, June 25 and 26. The Association is composed of Steuben and Chemung Counties in New York State and Tioga and Potter Counties in Pennsylvania. Further information may be obtained by writing to President Archie H. Hall, c/o New York-Penn Firemen's Association, Elkland, Pennsylvania.

**Tennessee:** The Tennessee State Fire Service School will be held at Middle Tennessee State College, Murfreesboro, August 23–27. Write to Director H. S. Elkins, Fire Department Instructor, 215 Chestnut Street, Chattanooga, Tennessee.

**Texas:** The Texas Firemen's Training School will be held at Texas A & M College, July 11–16. Write to Col. H. R. Brayton, Engineering Extension Service, Texas A & M College, College Station, Texas.

**Virginia:** The Annual State Fire School will be held in Norfolk, September 13–17. Write to Clay A. Easterly, Fire Marshal, P. O. Box 1112 Martinsville, Virginia.

**Washington:** The Annual State Fire School will be held in Tacoma, July 21–24. Write to J. R. Cook, Assistant Supervisor, State Board of Vocational Education, 1712 Harvard Avenue, Seattle, Washington.

**West Virginia:** The West Virginia State Fire School will be held in Morgantown, July 19–23. Write to R. E. Hanna, Jr., Supervisor, Fire Service Extension Schools, West Virginia University, Morgantown, West Virginia.

**Wisconsin:** The Wisconsin State Fire School will be held at the University of Wisconsin, in Madison, August 16–18. Write to J. J. Lichty, Coordinator, Business Institutes, Box 2098, Madison, Wisconsin.

## Thoughts to Remember

THE following quote is from an article entitled "Inquiry and Reason Today" by H. J. Bhabha taken from a series of lectures, "Man's Right to Knowledge," issued by Columbia University as part of their Bicentennial Program. Fire service leaders may well consider the truths in this quotation.

"Fear of ideas is a very real thing. It has led in the past and still leads to excesses greater than the fear of an enemy's physical strength. Societies in the past have often reacted violently in their attempt to suppress ideas which they thought threatened the basis of their existence. Some have failed in suppressing those ideas and have changed and developed as a result. Others have succeeded and have gone into decline.

"The path of inquiry and reason requires us to be afraid of no idea but to consider it dispassionately, even if this may mean the disapproval of society, the loss of our job, or some more drastic penalty. Few of us can do what Galileo did, but let us not emulate his persecutors, and let us remember their failure to suppress his ideas by violence. Work, leisure, and a rich and full life for all is the glistering prize; a place with the dinosaur in the catalogue of extinct species, is the alternative."

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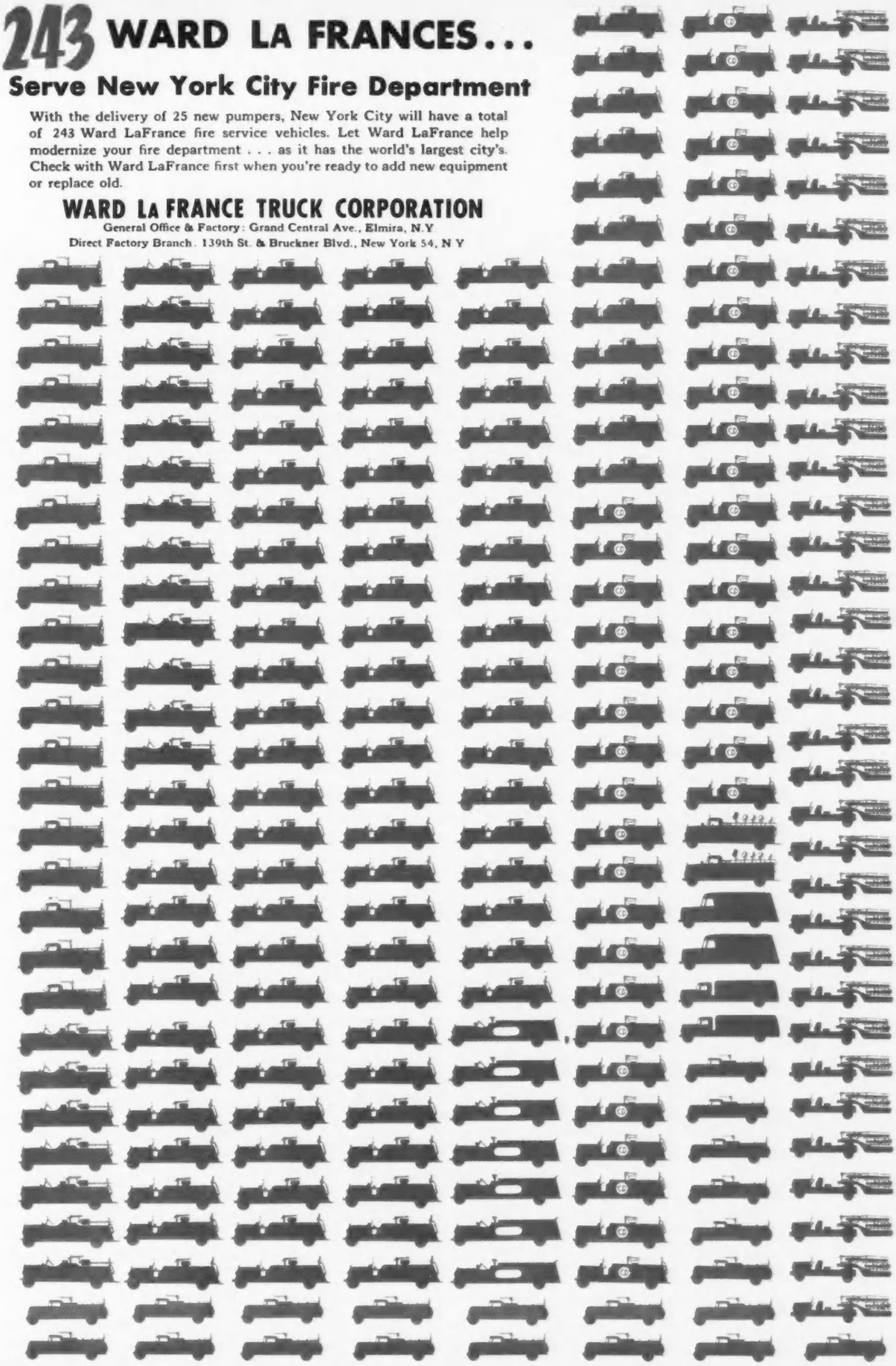

### New York City Inspections

NINETY radio-equipped engine companies in the New York City Fire Department are now conducting two daily inspections in their respective districts. The program was launched with Special Order No. 77, signed by Fire Commissioner Edward F. Cavanaugh and Chief of Department Peter Loftus. This was reported in Jerry Daly's column "Fire Crackers" in the May 14 edition of the New York Civil Service newspaper *The Chief*.

The official order was quoted as saying in part:

"The experimental stage of fire prevention inspections through the medium of apparatus and men has proven sufficiently successful to indicate a tremendous potential in the promotion of fire prevention. Fire prevention activities by members of the department will be increased under the supervision of the Chief of Department."

The inspection program has been in process in outlying districts of the city. (See FIREMEN for May, 1954.) On May 10 the special order extended the program to midtown Manhattan and downtown Brooklyn.

# What's New in Fire Equipment?

**Fire—Ambulance—Patrol Unit**

A combination service vehicle known as "FAPA" has been developed by the Christopher Company, 66–70 Beaver Street, New York 4, New York. It is an ambulance type unit with 12-man capacity and carries fire fighting equipment, including two 100-gallon water tanks, a 20-gallon foam tank, a 200 gpm Hale Pump, and a 250-ft. reel of ¾-in. booster hose. Suction and discharge connections can be made from either side of the vehicle. There are two 8-ft. bedseat spaces above the water tanks. The interior can accommodate three "lying down" patients and two sitting patients. Compartments in the cab provide additional storage spaces for first aid equipment, resuscitators, masks, oxygen, cylinders, and medicine. Write to the manufacturer for illustrated folder and further information.

**New 1500 gpm Pump**

Waterous Company, 70 East Fillmore Avenue, St. Paul, Minnesota, is producing a new 1500 gpm Class A centrifugal pump. Designated "Model CD-4" the pump has been designed to meet Class A requirements at a 10-foot lift through a single line of 6-in. suction hose at most locations. The new unit has two-piece pump casing, accessible split-gland type stuffing boxes and oil lubricated impeller shaft bearings outside of the pump casing.

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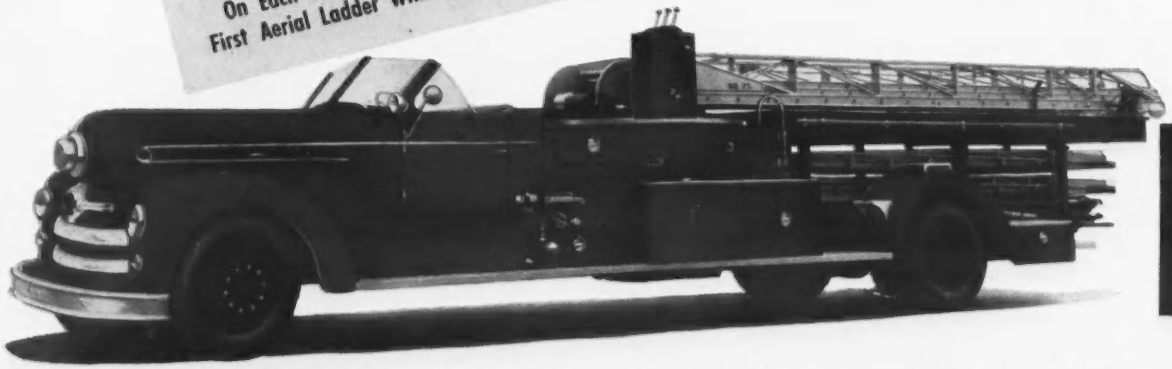

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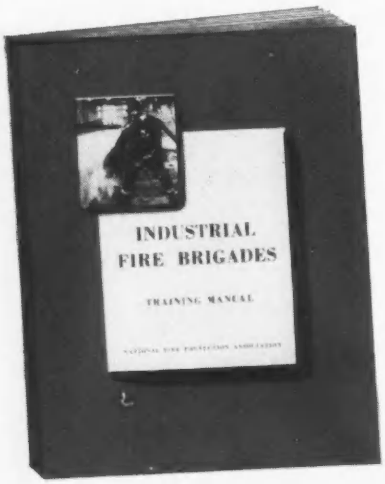


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